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DATE MAILED: 02/07/96

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☒ Responsive to communication filed on 11/22/95 ☒ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), ____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☒ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice of Draftsman's Patent Drawing Review, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449.
4. ☐ Notice of Informal Patent Application, PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐ _____.

Part II SUMMARY OF ACTION

1. ☒ Claims 1-28 are pending in the application.

Of the above, claims _____ are withdrawn from consideration.

2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-28 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____. has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application apppears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

Part III DETAILED ACTION

Specification

1. To insure proper consideration, applicant should provide the examiner with a copy of the foreign art and articles cited in the specification because it is not readily available to the examiner.

2. The disclosure is objected to because of the following informalities:

The word "grinded" should be replaced with the word ground wherever it appears in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 3 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Vitzthum et al. (U.S. Pat. No. 4,204,409) for the reasons set forth in the last Office Action.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

6. Claims 2 and 4 are rejected under 35 U.S.C. § 103 as being unpatentable over Vitzthum et al. in view of Wheldon et al. (U.S. Pat. No. 4,282,259) for the reasons set forth in the last Office Action.

7. Claims 5 to 28 are rejected under 35 U.S.C. § 103 as being unpatentable over Vitzthum et al. in view of Wheldon et al. and in further view of Todd Jr. et al. (U.S. Pat. No. 4,647,464) for the reasons set forth in the last Office Action.

Response to Amendment

8. Applicant's arguments filed 11/22/95 have been fully considered but they are not deemed to be persuasive.

9. Applicants argue that Vitzthum et al. fails to anticipate the instant claims. The Examiner disagrees. The Vitzthum et al. patent disclose (as does the instant application) broad variations of a hop extraction process that involves using supercritical CO_2 with a pressure of "at least 70 atmospheres" (col. 2, lines 10 to 12) and separating the extracts "from the solvent gas by reducing the pressure or temperature or both to below the critical points" (col. 1, lines 66 to 68). This process produces "hop extracts of high purity . . . and may be utilized to produce tannin free, tannin containing and other specialized hop extracts" (col. 1, lines 49 to 53).

10. In essence the Vitzthum et al. patent provides one in the art with the process parameters for separating hop oils and resins from the hop plant matter by use of CO_2 with a pressure of "at least 70 atmospheres" to produce "high purity extracts". Applicants' claimed range is within the patent's disclosed range and therefore anticipates the claims.

11. Applicants argue that the cited patented does not disclose a "hop extract[] containing a large amount of specific essential oil components which impart aroma to hops (beer?)" (page 8 of Amendment). It is first noted that applicants' specification fails to disclose "specific essential oil components". The mere statement that applicants have discovered something does not mean that they have disclosed that something.

12. But to address applicants' argument above, it is considered that in viewing the results of Example 1 it is seen that the extract's water content is 13.2%, the total resin content is 33.2% and the tannin content is 3.8%. This leaves 49.8% remaining, which would consist of the essential oils. The extract, therefore, would be rich (in comparison to the resins) in essential oils.

13. In conclusion, while Vitzthum et al. set forth their preferred pressure ranges, they anticipate the claims because the set forth ranges that encompass applicants' claimed range. One in the art would extract from the Vitzthum et al. teaching, that based on the initial pressure and the subsequent lowering of pressure for the separation of the hop constituents, that depending on the desired final product one would vary these pressures.

14. Applicants argue that the Office failed to supply "a reason why one of ordinary skill in the art would been led to modify a prior art reference". In fact, the Examiner stated in the last Office Action that "[t]o separate the hop extract of Vitzthum et al. into the two fractions as done by Wheldon et al. would have been obvious to one of ordinary skill in the art since it is useful to have an extract that has a high concentration of hop oils. Apparently, applicants do not find this reason sufficient but have not given how or why such sufficiency is lacking.

15. Applicants specifically argue that Wheldon et al. teaches away from the combination. The Examiner disagrees. A careful reading of the Wheldon et al. patent discloses that Wheldon teaches away from "a system in which carbon dioxide is always super critical" and Vitzthum et al. in fact teach that the "extracts are separated from the solvent gas by reducing the pressure or temperature or both to below the critical points" (col. 1, lines 66 to 68).

16. The 103 rejection is based on the teaching that Vitzthum discloses a method of using supercritical CO_2 to separate hop fractions while Wheldon et al. teaches the desirability of producing hop oil concentrates. Therefore, one in the art, desiring to produce a hop oil concentrate, would optimize the Vitzthum process so as to produce the said concentrate.

17. Applicants then argue that Todd, Jr. et al. is unrelated because it does not anticipate the claimed invention. Applicants are reminded that Todd, Jr. et al. was applied in an obvious rejection and therefore if applicants fell that Todd, Jr. et al. is unrelated they should give specific reason why.

18. Applicants then give the advantages for combining the extract with the hop residues as 1)a portion of the hop oil is retained in the hop residue, 2)that the extract and hop residue are "stable if they are stored separately" and 3)that by combining the extract back with the extract residue it prevents

the "evaporation-off of the essential oil". It is noted that point 2) is not supported by the specification and therefore given no weight. As to the other assertions, it is considered that these results are expected and therefore obvious. Further, Todd, Jr. et al. state that by using the instant invention that the oils are "uniformly desorbed in the beer" (col. 3, lines 24 to 29).

19. Applicants also state that heating of the oil is essential to improve the aroma of the beer. In reviewing applicants' examples (specifically, #3) it is seen that, even with heating, the production of "grassy aromas" occurs and therefore this assertion is considered not convincing.

20. The submission by applicants of a 1.132 declaration directed to the asserted unexpected results, if convincing, could overcome the instant obviousness rejection.

Conclusion

21. No claim is allowed.

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE

MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

23. Ogasahara et al. (U.S. Pat. No. 5,264,236) discloses a method for production of hop extracts.

24. Hopfen (D.T. 2626534) discloses a hop extract containing proportions of hop components.

25. Hopfen (D.E. 3414977) discloses a hop extraction produced using different temperatures and pressures.

26. ANH (B.E. 753555) disclose the use of hop waste for brewing.

27. Steinecker (E.P. 597462) disclose the continuous reformation of spent hops.

28. Krasd (S.U. 1601112) disclose using waste from carbon dioxide extraction.

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis Sherrer whose telephone number is (703) 308-3847. The examiner can normally be reached on Monday through Friday from 6:00 to 2:30.

30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Esther Kepplinger, can be reached on (703)-308-~~3852~~ 2339. The fax phone number for this Group is (703)-305-3602.

31. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0651.

Curt Sherrer
January 31, 1996

Esther M Kepplinger

ESTHER M. KEPPLINGER
SUPERVISORY PATENT EXAMINER
GROUP ~~1800~~ 1302